## REMARKS

Claims 1-26 are pending in the application. In the above reference Final Office Action the Examiner has made the following actions.

### Claim Rejections Under 35 U.S.C. § 103

In the above Office Action the Examiner has rejected claims 1, 2, 5, 8-12, 14-19 and 21-26 under 35 U.S.C. § 103(a) as being unpatentable over Orman (U.S. Patent No. 7,143,131) in view of Soles (U.S. Patent No. 7,143,131). The Examiner has further rejected claims 3, 4, 6, 7, 13 and 20 under 35 U.S.C. § 103(a) as being unpatentable over Orman in view of Soles and in further view of Serex (U.S. Patent No. 6,532,079). Applicant respectfully traverses.

### Orman Disclosure

Orman is directed to a system and method for transparent takeover of TCP connections between servers [Abstract]. In particularly, Orman describes transferring connections between a first and a second server using shared memory [Col. 6, lines 57-67].

### Differences Between Orman and the Presently Claimed Invention

One aspect of the invention as described in claims 1, 11, 18 and 24 relates to facilitating failover of a stateful protocol connection from a proxy server to a standby proxy including a step or apparatus to *transfer state information* relating to the first stateful protocol connection from a proxy element to a standby proxy. The Examiner asserts that Orman teaches such an element, citing Col. 9, lines 52-55 and 63-66, which describe:

> At approximately the same time, according to step 606, the second server prepares to take over the TCP connection by *consulting the shared state information* for the data needed to establish an open Transmission Control Block (TCB) in the second server with respect to the connection. In general, the TCB includes send and receive port numbers, send and receive windows, send and receive sequence

numbers, local and client IP addresses and other technical parameters needed to send and receive data reliably with a remote endpoint. In creating the TCB, an API call to reconstitute the connection is issued by the restart manager on the second server (260 in FIG. 2). This call enables each protocol in the second server's stack to use the *shared state information to recreate its particular local connection structure* [Col. 9, lines 52-66].

Contrary to the Examiner's assertion that the cited section describes transferring state information, this section of Orman clearly describes that a first and a second server use *shared state information*, not information transferred from one server to another server. This is further evidenced by FIG. 6, which illustrates the failover process of Orman by showing a step of accessing "shared state information and establish[ing] TCB in second server" [FIG. 6, step 606]. Orman does not describe any transfer of state information as is claimed in the present invention – it merely describes that state information is shared between the first and second server.

Applicant further notes that such a transfer of information from a first server to a second server would be impossible based on the teachings of Orman because Orman presumes that the first server has failed and is therefore inoperative (see, e.g, Col. 6, lines 57-67 describing that the "functioning cache servers dynamically assume the roles of failed machines . . . using the shared connection structure," and Col. 9, lines 8-16, where procedure 600 describes that the first server has failed with the failure detected by the failure of a connection checkpoint, leading to access of shared state information at step 606 by the second server).

For at least these reasons, Orman fails to describe this element of claims 1, 11, 18 and 24. Moreover, Applicant is also unable to find such a teaching in the other cited reference, Soles. Consequently, for at least these reasons Applicant respectfully asserts that the rejections under 35 U.S.C. § 103 is improper. Applicant therefore requests that the rejections of claims 1, 11, 18 and 24, as well as their associated independent claims, be withdrawn and the claims be allowed.

The Examiner acknowledges that Orman is further deficient with respect to claim 1 (and similarly with respect to claims 11, 18 and 24) in that it does not describe the claimed elements

of withholding acknowledgement of receipt of the data at the proxy element until a predefined operation involving the data has been performed, with the predefined operation being performed subsequent to the receipt of the data and being other than determining that the data has been satisfactorily received. The Examiner attempt to cure this deficiency by citing Soles, stating that Soles teaches:

> withholding acknowledgment of receipt of the data at the proxy element until a predefined operation involving the data has been performed (Col 12 lines 41-48, figure 1, XTCP 106 in server 102 withholds acknowledgement of received packets, and 'throttleing" corresponds to the "predefined operation").

Applicant respectfully asserts that the Examiner misconstrues this section of Soles in light of the claimed elements. More specifically, the cited section of Soles relates to "Modifications and Alterations" of the described embodiments by "throttling" down incoming transmissions when buffer space has been filled. This is further described as "(1) withholding acknowledgment of some or all received packets and/or . . . discarding all the data contained in the [received] packets." What Soles describes is, in effect, slowing the rate of incoming packets by failing the acknowledge their receipt, thereby precluding storage of the incoming packets in the overfilled buffers and requiring the sender to retransmit the packets (or discarding them upon receipt). It is apparent that this "throttling" is not an example of the claimed element of "withholding acknowledgment of receipt of the data at the proxy element *until a predefined operation involving the data has been performed*," because, at a minimum, it describes that the data is ignored or discarded (in order to avoid storing it in the overfilled buffer), rather than having a predefined operation performed on it. The described "throttling" of Soles is merely another way of describing that data is discarded. Moreover, as a consequence of the "throttling" operation, if incoming packets are "throttled," then Soles describes that no acknowledgment is sent. This is clearly counter to the instant claim element that describes that the acknowledgment is merely withheld until the predefined operation has been completed.

Claims 1, 11, 18 and 24 further describes that an acknowledgment of receipt is sent from the proxy element subsequent to performance of the predefined operation involving the data.

The Examiner asserts that Soles teaches this element, again citing Col. 12, lines 41-48. As noted above, this section of Soles describes that "throttling" is performed by "(1) withholding acknowledgment of some or all received packets." Consequently, assuming for purposes of argument that, "throttling" describes a "predefined operation" as claimed, Soles describes that, in order to implement the "throttling" acknowledgment is not performed for those packets that are "throttled." Consequently, Soles cannot describe the element of sending acknowledgment subsequent to the predefined operation because it explicitly states that no acknowledgment is sent if the data is "throttled." Applicant is further unable to find such a teaching in Orman.

For at least these reasons, Orman and Soles, taken either alone or in combination, fail to describe these elements of claims 1, 11, 18 and 24. Consequently, for at least these reasons Applicant respectfully asserts that the rejections under 35 U.S.C. § 103 is improper. Applicant therefore requests that the rejections of claims 1, 11, 18 and 24, as well as their associated independent claims, be withdrawn and the claims be allowed.

Another aspect of the present invention as is described in, for example, claims 2, 12, 19 and 25, relates to the predefined operation committing the data to an application executing on the proxy element and receiving a send acknowledgment command from the application. The Examiner asserts that Soles teaches such an element, merely citing Col. 12, lines 41-48, which read:

> For example, XTCP service 106 may also be provided with logic to monitor the usage of the various buffers, and "throttle" down incoming transmissions when the amount of free buffering space has been reduced below a predetermined threshold. Such "throttling" may be achieved, in various embodiments, e.g. by (1) withholding acknowledgment of some or all received packets, and/or (2) hiding some or all received packets from the application server 108 (thereby discarding all the data contained in these packets) (Col. 12, lines 41-49)

Applicant is unable to see how this cited section of Soles describes the claimed elements of (1) committing the data to an application executing on the proxy element; and (2) receiving a

send acknowledgment command from the application. If anything, this section of Soles describes that data is ignored or discarded rather than being sent to an application. Moreover, as previously noted, this section of Soles clearly describes that no acknowledgment is sent if the data is throttled down – consequently, there is no reason for an application to provide a "send acknowledgment" command, nor for one to be received, since no acknowledgment is being sent from the server. Applicant is further unable to find such a teaching in Orman.

For at least these reasons, Orman and Soles, taken either alone or in combination, fail to describe this element of claims 2, 12, 19 and 25. Consequently, for at least these reasons Applicant respectfully asserts that the rejections under 35 U.S.C. § 103 is improper. Applicant therefore requests that the rejections of claims 2, 12, 19 and 25 be withdrawn and the claims be allowed.


Another aspect of the present invention as is described in, for example, claims 3, 13 and 20, relates to sending, from the proxy element, the data to a second external entity and receiving, at the proxy element, a second acknowledgment that the data has been received at the second external entity. The Examiner acknowledges that Orman and Soles are deficient with respect to this element and therefore tries to cure this deficiency by citing Serex, U.S. Patent No. 6,532,079. Applicant notes that Serex is directed towards methods and devices for processing images (i.e. photos) [Abstract]. The Examiner states that Serex describes that when data transfer (to an imaging processor) is complete, an acknowledgment is sent. While this may or may not be accurate, Serex is clearly directed to a completely different technological area (i.e., photo processing technology), and provides no basis or motivation for combination with Orman or Soles. Moreover, Serex fails to describe or suggest anything about sending or receiving data or acknowledgments in a stateful protocol system, and therefore, even to the extent that Serex describes sending an acknowledgment, it still fails to describe such an acknowledgment in a stateful protocol system.

For at least these reasons, Orman, Soles or Serex, taken either alone or in combination, fail to describe this element of claims 3, 13 and 20. Consequently, for at least these reasons

Applicant respectfully asserts that the rejections under 35 U.S.C. § 103 is improper. Applicant therefore requests that the rejections of claims 3, 13 and 20 be withdrawn and the claims be allowed.

Another aspect of the present invention as is described in, for example, claim 4, relates to sending of the data to a second external entity in accordance with a second stateful protocol connection and transferring state information relating to the second stateful protocol connection to a standby proxy. The Examiner asserts that Orman Col. 9, lines 52-55 and 63-66 teaches such an element. As described previously with respect to claims 1, 11, 18 and 24, Orman fails to teach at least the element of transferring state information from a first server to a second server, because it explicitly describes that the state data is stored on a shared memory accessible by both servers. Likewise, Applicant is unable to find a description of such an element in Soles or Serex.

For at least this reason Orman, Soles or Serex, taken either alone or in combination, fail to describe this element of claim 4. Consequently, for at least these reasons Applicant respectfully asserts that the rejection under 35 U.S.C. § 103 is improper. Applicant therefore requests that the rejection of claim 4 be withdrawn and the claim be allowed.

Accordingly, for at least the above described reasons, Applicant respectfully requests reconsideration of the outstanding rejection of claims 1-26 under 35 U.S.C. §103 as being unpatentable over Orman et al. in view of Soles and Serex.

## Conclusion

It is believed that all of the pending claims have been addressed in this paper. However, failure to address a specific rejection, issue, or comment does not signify agreement with or concession of that rejection, issue, or comment. In addition, because the arguments made are not intended to be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims, including any cancelled claims) that have not been expressed. Finally, nothing in

this paper should be construed as an intent to concede any issue with regard to any claim except as specifically stated in this paper.

Applicant respectfully requests consideration of the remarks herein prior to further examination of the above-identified application. The undersigned would of course be available to discuss the present application with the Examiner if, in the opinion of the Examiner, such a discussion could lead to resolution of any outstanding issues.
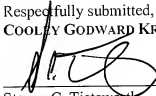
The Director is hereby authorized to charge any appropriate fees under 37 C.F.R.§§ 1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-1283.

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